Atty. Docket No.
548A.0001

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: William J. FARRELL, Jr. et al.

Serial No.:	10/696,583	Group Art Unit: 3635
Filed:	October 30, 2003	Examiner: William V. Gilbert
For:	WIRE MESH SCREED	

APPEAL BRIEF

Mail Stop Appeal Brief – Patents
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

On June 4, 2009 Appellant appealed to the Board of Patent Appeals and Interferences from the outstanding rejection of the claims in the above-identified application. The following is Appellant's Appeal Brief pursuant to 37 C.F.R. § 1.192.

1. REAL PARTY IN INTEREST (37 C.F.R. § 41.37(c)(1)(i))

The real party in interest is the current assignee and owner of the entire interest in the application, namely, Met-Rock LLC, an Alabama Limited Liability Company having an address of 2505 Alexandria Road, Anniston, AL 36201 by virtue of an assignment duly recorded in the records of the United States Patent Office at Reel 017194, Frame 0341.

2. RELATED APPEALS, INTERFERENCES OR JUDICIAL PROCEEDINGS (37 C.F.R. § 41.37(c)(1)(ii))

There are no other appeals, interferences or judicial proceedings known to Appellant, the Appellant's legal representative, or assignee which may be related

to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

3. STATUS OF THE CLAIMS (37 C.F.R. § 41.37(c)(1)(iii))

Claims 22-35 are pending.

The originally filed claims, 1-20, were subject to a three way restriction requirement. Group I, comprising claims 1-13, drawn to a construction panel was elected without traverse and claims 14-20 were withdrawn.

Claims 7 and 11 were cancelled in an amendment responsive to a first, non-final action. Applicant was unable to secure the allowance of the remaining claims and filed a first RCE. After reaching an agreement during an Office Interview discussing the pending claims, Applicant cancelled claims 2-6, 8-10, 12 and 13, amended claim 1 and added claim 21 to be the only remaining claims in the application and including the limitations agreed upon during the Office Interview. The Examiner issued a Final Rejection of claims 1 and 21. Applicant filed a second RCE with a responsive amendment wherein claims 1 and 21 were cancelled and new claims 22-35 were added and supported by Rule 132 Declarations. Claims 22-35 were rejected in a non-final Office Action and are the claims on appeal.

No claim is allowed.

4. STATUS OF AMENDMENTS (37 C.F.R. § 41.37(c)(1)(iv))

There are no amendments after final, denied entry, or otherwise pending.

5. SUMMARY OF THE CLAIMED SUBJECT MATTER (37 C.F.R. § 41.37(c)(1)(v))

A concise explanation of the subject matter of the claims involved in this appeal is presented below. This explanation refers, by way of example only and without intending to limit the claims on appeal (or subject matter restricted out of the present application), to the page and line number of the specification as filed.

Independent Claim 22

The present invention is directed to a construction panel comprising an (1) outer wire mesh member and an inner wire mesh member; each of the wire mesh members defining at least two outwardly projecting screed ridges extending parallel to one another a length of said wire mesh members; (2) a middle member comprising a plurality of layers comprising wire trusses and polystryene disposed between said outer and inner mesh members and positioned to define a first gap between said middle member and said outer mesh member and a second gap between said middle member and said inner mesh member, said middle member being connected to said inner and outer mesh members by attaching said mesh members to trusses on outside ends of said middle member and wherein when attached the orientation of respective apexes of the screed ridges on said inner and outer members are diametrically opposed such that the apexes of the screed ridges on said inner member extend away from said middle member in a first direction and the apexes of the screed ridges on said outer member extend away from said middle member in a second direction, said second direction being the opposite direction of the first direction; and (3) first and second outer layers of concrete material applied to said inner and outer mesh members to a depth extending from said middle member to the apexes of said inner and outer mesh members, as described in independent claim 22. *See* Specification at [0036], p. 7, lines 3-8; specification at [0038], p. 7, lines 20-21; specification at [0041], p. 8, lines 14-15, 20; specification at [0043], p. 9, lines 8-12; specification at [0044], p. 10, lines 3-5; specification at [0046-0047], p. 10, line 23 – p. 11, line 4; specification at [0051], p. 12, lines 9-12; and specification at [0052], p. 12, lines 15-22.

Turning to the Figures, as depicted in FIG. 1, the construction panel 10 comprises first and second wire mesh members 101,102 and a middle member 110 disposed therebetween. The wire mesh members 101,102 and the middle member 110 define a small gap 115 between the front 111 and back face 112 of middle member 110 and the respective wire mesh member 101, 102. As depicted in FIG. 3, the wire mesh members may be provided with two parallel impressions 105, 106 along its length. As depicted in FIG. 7, a construction

panel 300 may include three impressions in mesh members 301,302. A first impression, or middle impression 304, is centered and two other impressions, or left and right impressions 305, 306, are positioned proximate their respective edges of the panel and each impression includes a leading wire 304, 305 and 306 which serve as the screed rail

As shown in various figures, the wire mesh members are secured to sandwich middle member 110 by the use of hog rings attached to wire trusses (ref. # 320 FIGs. 7, 8, 15-18) on the panel ends. After the wire mesh members 101,102 are secured around the middle member 110 the panel composite 10 is ready for use. Panels being used as wall will be finished with shotcrete or plaster (ref. # 330 in FIGs. 7, 9A, 9B).

Independent Claim 28

Also according to the invention there is a construction panel comprising a pair of wire mesh members sandwiching a middle member comprising polystyrene, each of said wire mesh members defining two outwardly projecting screed ridges extending a length of said wire mesh members, wherein each of said screed ridges are configured as V-shaped impressions having an apex extending about ½ inch and oriented such that the apexes of each wire mesh member extend away from said middle member, and an outer layer of concrete material applied to each of said wire mesh members to a depth extending from said middle member to the apexes of said inner and outer mesh members as set forth in independent claim 28. *See* Specification at [0036], p. 7, lines 3-8; specification at [0038], p. 7, lines 20-21; specification at [0039], p. 8, lines 5; specification at [0043], p. 9, lines 8-12; specification at [0044], p. 10, lines 11-13; specification at [0051], p. 12, lines 9-12; and specification at [0052], p. 12, lines 15-22.

Turning to the Figures, as depicted in FIG. 1, the construction panel 10 comprises first and second wire mesh members 101,102 and a middle member 110 disposed therebetween. The wire mesh members 101,102 and the middle member 110 define a small gap 115 between the front 111 and back face 112 of middle member 110 and the respective wire mesh member 101, 102. As

depicted in FIG. 3, the wire mesh members may be provided with two parallel impressions 105, 106 along its length. Panels being used as wall will be finished with shotcrete or plaster (ref. # 330 in FIGs. 7, 9A, 9B).

Independent Claim 32

Also according to the invention there is provided a construction panel comprising a pair of wire mesh members sandwiching a middle member comprising polystyrene, each of said wire mesh members defining three outwardly projecting screed ridges extending a length of said wire mesh members, wherein each of said screed ridges are configured as V-shaped impressions having an apex extending about ½ inch and oriented such that the apexes of each wire mesh member extend away from said middle member, and an outer layer of concrete material applied to each of said wire mesh members to a depth extending from said middle member to the apexes of said inner and outer mesh members. *See* Specification at [0041], p. 8, lines 12-18, 20; specification at [0061], p. 15, lines 20-22, lines 8-12; specification at [0044], p. 10, lines 3-5; specification at [0051], p. 12, lines 9-12; and specification at [0052], p. 12, lines 15-22.

Turning to the Figures, as depicted in FIG. 7, a construction panel 300 may include three V-shaped impressions extending ½ inch in a pair of mesh members 301,302 sandwiching a polystyrene middle member 310. A first impression, or middle impression 304, is centered and two other impressions, or left and right impressions 305, 306, are positioned proximate their respective edges of the panel and each impression includes a leading wire 304, 305 and 306 which serves as the screed rail. Panels being used as wall will be finished with shotcrete or plaster (ref. # 330 in FIGs. 7, 9A, 9B).

6. GROUNDS OF THE REJECTIONS TO BE REVIEWED ON APPEAL (37 C.F.R. § 41.37(c)(1)(vi))

(i) Claims 22 and 23 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (U.S. Patent No. 4,611,450) in

view of Strand (U.S. Patent No. 1,664,837) and Ritter (U.S. Patent No. 6,272,805).

(ii) Claims 24-35 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (U.S. Patent No. 4,611,450) in view of Strand (U.S. Patent No. 1,664,837), Ritter (U.S. Patent No. 6,272,805) and Sacks (U.S. Patent No. 6,820,387).

7. ARGUMENT (37 C.F.R. § 41.37(c)(1)(vii))

I. The Examiner Erred in Making the Rejection of Claims 22 and 23 Under 35 U.S.C. 103(a) By Chen in view of Strand and Ritter

A. Summary of Prosecution to Date

The present application was filed on October 30, 2003 with claims directed to construction panels (claims 1-13) and methods of making construction panels (14-20). On January 8, 2007, the Examiner issued a written three-way restriction requirement wherein Group I comprised claims 1-13, drawn to a construction panel; Group II comprised claims 14-16, drawn to a method of making a construction panel; and, Group III, comprised claims 17-20 drawn to a method of attaching construction panels. In response, on February 5, 2007, Applicant elected Group 1 directed to construction panels.

On March 7, 2007, the Examiner issued a first Office Action rejecting claims 1-13 (and withdrawing claims 14-20 due to the election of Group I) as anticipated by Rockstead (US 4,104,842) (claims 1,2,6,8 and 10) or obvious in view of Rockstead when combined with Chen (US 4,611,450). On April 8, 2007, Applicant filed an Amendment amending the claims (and cancelling claims 7 and 11) to, *inter alia,* clarify that the wire mesh members had "outwardly projecting screed ridges."

On June 27, 2007, the Examiner issued a Final Office Action rejecting the pending claims as amended as obvious in view of the combination of Chen in view of Sacks(US 6,820,387). In response, Applicant filed an Amendment to overcome a claim objection and alleged indefiniteness issue, and also argued that the prior art rejection could not stand because Sacks did not disclose

"outwardly" projecting screeds, but rather "inwardly" projecting points that could not serve the purpose of a screed. On September 18, 2007, the Examiner issued an Advisory Action indicating that the Amendment would not be entered because "The Claims as amended further limit the Claim and would require a further search."

On October 29, 2007, Applicant filed and RCE and responsive submission to the outstanding Office Action. On January 25, 2008, the Examiner issued another Office Action rejecting the claims as obvious in view of the combination of Chen in view of Sacks (and with respect to claim 9, in further view of Salisbury (U.S. 4,104,842)). In response to Applicant's arguments, the Examiner indicated that he disagreed that Sacks did not disclose "two outwardly extending projecting screed ridges" as claimed. In an effort to expedite the issuance of a patent after more than four years of pendency, Applicant's representative conducted a personal interview with the Examiner and his Supervisor on April 23, 2008 to explain the import and novelty of the screed ridges as described and claimed in the application. The rejections and proposed claim amendments were discussed and the Interview Summary notes that an agreement was reached.

On April 25, 2008, pursuant to the agreement reached at the Interview, Applicant amended the claims by canceling all but claim 1, and adding new claim 21, that included the limitations agreed upon to overcome the prior art of record. In the response, Applicant noted that they did "not acquiesce in the rejections" but that the claims were amended to secure allowance of the claims. However, on July 22, 2008, the Examiner issued a Final Office Action rejecting claims 1 and 21 as obvious in view of the combination of Chen, Strand (US 1,664,837), Sacks and Ritter (US 6,272,805). The Office Action indicated that it was made Final because "Applicant's amendment necessitated the new ground(s) of rejection" and that Applicant's arguments were considered but "moot in view of the new ground(s) of rejection as applicant amended the claims."

Applicant filed a Request for Continued Examination to address the Examiner's rejections, to present claims of scope similar to those pending before the agreed-to limitations from the interview were added to the claims, and to

present two Declarations under 37 C.F.R. § 1.132 that evidenced the patentability of the invention in view of the prior art. On March 4, 2009, the Examiner issued a rejection of the claims submitted with the RCE. This appeal followed and those rejections are on appeal.

B. The Examiner Fails to Appreciate the Significance of the Claimed "Screed Ridges"

In the Office Action, claims 22 and 23 were rejected under 35 U.S.C. 103 as allegedly being unpatentable over Chen (US 4,611,450) in view of Strand (US 1,664,837) and Ritter (US 6,272,805). Applicant has repeatedly dealt with this or similar rejections throughout prosecution. Applicant maintains the position that the prior art in no way, shape, or form teaches or suggests the provision of screed ridges, or built in screeds, on a construction panel to allow for unskilled labor to assemble and finish the panels. To be more specific, the outwardly extending ridges claimed in the invention serve as "screeds" that allow a user to cut and smooth a material applied to the mesh. This aspect of this feature of the invention is fully set forth in the specification in several places, including paragraphs [0007], [0052], [0053], and [0059]:

> [0007] An advantage of the invention lies in that the wire mesh members may be configured to include a plurality ***of V-shaped impressions which will serve as a visual and mechanical built-in screed.***
> * * * *
>
> [0052] In view of the fact that there is a ½ inch gap 115, see Figure 1, between each wire mesh members 101, 102 and the middle member 110, one inch of finishing material should result in the wire mesh being embedded about half way therein. In addition, ***given that the wire mesh was provided with two ½ inch deep V-shaped impressions 105, 106, the apex 150 of the impressions serves as a visual screed for the application of the finishing materials and then as a mechanical screed (allowing a 48-inch blade to be slid up and down the apexes of the impressions) to ensure the wall is cut flat*** and ready to be finished with, for example, a stucco look.
>
> [0053] Notably, as will be appreciated by one of ordinary skill in the art, the wall can be erected with the impressions running horizontally (see Figure 1) or vertically (see Figure 5). In either case, ***the panel can be cut with a screed blade running along the apexes of the V-shaped impressions.***
>
> * * * *

[0059] . . . . Figure 7 also shows a 1 3/16-inch layer of concrete 330 as a finishing material applied to both sides of the panel ***and smoothed using the three built in screed notches 304, 305, and 306.***

In making the presently appealed rejection, the Examiner completely ignores the "screed ridge" limitation of the claims:

> "While Chen discloses a mesh member (223), it does not disclose screed ridges with an impression having an apex projecting outwardly from the member. Strand discloses a mesh screed member (Fig. 1: 15 and 18) and having outwardly point apices (see "A" from attached Fig. 2 from Strand below). It would have been obvious . . . to use the mesh in Strand with the mesh in Chen because the mesh in Strand would perform equally as well as the mesh in Chen and would adds a further dimension to aid in the bonding of the cementitious material to the mesh." Office Action at 4.

Applicant's invention has nothing to do with "aiding in the bonding of the cementitious material to the mesh." Applicant's invention is related to the provision of built-in screeds for allowing unskilled labor to cut flat and finish the outside layer of the panels. A perusal of Figure 2 of Strand clearly shows that the alleged apices do not, and could not, serve as screeds.

The terms "screeds", "screed ridges," "screed rails," and the like, have a very specific and well understood meaning in the art. Applicant's specification discusses the problems in the art, such as the need for specialized labor, which the Examiner ignores when asserting that the cited reference shows "screed ridges":

> [0003] ***Screed systems*** are known in the art. For example, in a traditional method of plastering a wall product, ceiling, or floor, without the placing of tiles on the wall product thereafter, wooden float strips are used to guide a straight edge across an area forming the wall product being plastered, while raking off excess mud, etc. left in the application of the mud. The float strips, or ***"screeds"*** are tapped into the prepared or wet mud, such as mortar, cement, or other suitable materials, with a separate level held against one or more of them to obtain a horizontal, vertical, or other orientation or plum. . . .
>
> [0004] As will be appreciated, the difficulties with prior art ***screed systems*** are particularly acute with respect to preparing walls, such as foundation walls for buildings. In many prior art techniques, a craftsman looking to plaster a wall would have to prepare initial mud columns by hand on the wall. These columns would be erected for accepting a ***screed*** which would be used to allow the wall to be filled and

cut to a uniform depth. However, mud columns crafted by hand were never truly uniform and difficult and time consuming to construct. . . .

None of the cited references teach or suggest, nor even lend themselves to be modified to be used as, a screed ridge.

C. The Declaration of Mark Heath Was Ignored

In an effort to further explain the invention and its stark contrast to the cited art, Applicant submitted the Declaration of Mark D. Heath Under 37 C.F.R. 1.132 in conjunction with its Responsive Submission Pursuant to 37 C.F.R. § 1.114. A copy is submitted herewith in the Evidence Appendix B. In his Declaration, Mr. Heath discusses the relevant art of the invention and addresses why one of ordinary skill in the art would not have come up with the present invention in view of the art cited by the Examiner. Further, Mr. Heath discusses what the cited art teaches or suggests to the ordinarily skilled artisan and also why the references could not be used to achieve the invention as suggested by the Examiner. Finally, Mr. Heath points out that some of the references are non analogous art and that some combinations would lead to an inoperable structural panel.

1. Mr. Heath Explained the Significance of the "Screeds"

Specifically, as set forth in Mr. Heath's Declaration, after discussing the Structural Concrete Insulating Panel ("SCIP") art, he discusses the import of the "screeds" described and claimed in the application. According to Mr. Heath, SCIP technology suffered from the drawback in the art that the sprayed cementitious finishing material resulted "in the need of skilled craftsmen to smooth out the surface after the spray equipment has applied it." Heath Decl. at para. 13. He attributes this skilled labor requirement as "the reason that there are to date no successful SCIP panel enterprises in the US." *Id.* As he discusses, the present invention overcomes this drawback in the art. Due to the lack of, and/or affordability of, skilled labor in the U.S., the present invention provides "deformation in the face mesh . . . [to] allow an unskilled worker to quickly and accurately flatten the sprayed surface of the shell." Specifically, "by simply drawing a flat edged tool, known in the trade as a 'rod' or 'knife', along the built-in 'screeds' created by the deformations in the . . . face mesh, the worker

can quickly true up the surface and achieve results approaching the work of a skilled craftsman." Heath Decl. at para. 14. Notably, in the "Background of the Invention" section of the specification, the drawbacks in the art with respect to labor and skill in finishing were also discussed. Spec. at [0002]-[0004].

2. Mr. Heath Addressed the Prior Art's Lack of "Screeds" and the Prior Art's Teaching Away from the Present Invention

With respect to the cited art. Mr. Heath elaborates on why these references, alone or in combination, do not teach or suggest the present invention to one of ordinary skill in the art. The references either do not perform as suggested by the Examiner's modification, teach away from the invention, and/or do not comprise analogous art.

a. The Examiner's Primary Reference - Chen

With respect to Chen, Mr. Heath points out in his Declaration that the elements 32, 34, 36, 38, 50, 232, 233, 312, 342 are all "flush with the surface of the face mesh." Heath Decl. at para. 19. These elements do not suggest or lend themselves to use of screeds and if used as such would destroy the utility of the final product. *Id.* Moreover, Mr. Heath notes that one of ordinary skill in the art would know that Chen is not SCIP art and not a source or information or otherwise interchangeable with SCIP art. *Id.* at 20. Specifically, Mr. Heath states, *inter alia,* that "Chen and the present MetRockSCIP art are not related art. Chen is a structural metal cage with an insulating core, while the present MetRockSCIP claims are directed to a composite panel with cementitious shells as essential and vital parts thereto." Heath Decl. at para. 20. In other words, there would be no need to finish or smooth a cementitous coating in Chen as described and claimed in the present application and thus there is no need or motivation to swap the mesh members as suggested by the Examiner's combination with Strand.

b. The Examiner's Secondary Reference - Strand

With respect to Strand, even if combined as suggested by the Examiner, the final product would not render the present invention obvious. As to Strand, Mr. Heath notes that "elements 15 and 18 in the Strand art are **not** screed ridges

but rather 'ridges' protruding past the plane of the plasterboard." Heath Decl. at para. 27. He emphasizes the importance of this difference:

> Again, they are "points", they are not "lines", or "rows". They are nothing like what are known in the trade as "screeds." If one were to try to use these points as screeds and draw a knife or rod along the surface of the Strand "points", elements 15 and 18, the result would be a bumpy and irregular surface, not a flat and smooth surface. *Id.*

Mr. Heath also points out that the reference does not teach these elements as being used or useful as screeds: "The function is that they can anchor the plaster to the plasterboard substrate. The points or ridges are buried within the plaster coating and could not be used as a screed because of their location within, and not at the surface of the plaster coating." *Id.* at 28.

Given the fact that if elements 15 and 18 were used as screeds they would have the opposite effect of the screed ridges of the present invention (resulting in an irregular finished surface when a smooth surface is desired), Mr. Heath concludes that Strand "is the antithesis of the screed ridges of the present invention." Heath Decl. at 29. In view of this conclusion and the conclusion that Strand is related to decorative plaster (which itself "would teach away from a structural system with composite acting shells" Heath Decl. at para. 30), Applicant submits that Strand not only fails to suggest the Examiner's combination but also that the reference teaches away from the invention and the proposed combination would result in an inoperable panel for its intended use (smooth structural finished panels as opposed to decorative panels).

c. The Examiner's Third Reference - Strand

Turning to the Ritter reference, the Examiner relies on Ritter as disclosing "a construction element with a foam core and concrete outer layers" in making the rejection. Mr. Heath confirms that the Ritter reference is SCIP art but different and teaching away from various inherent features of the claimed invention. *See* Heath Decl at para. 24-26. However, what is most germane to the claims is noting "that Elements 1, 2, 3, 4, 5, 6, are all flush, or nearly so, with the surface of the mesh element." Heath Decl. at para. 24. Accordingly, the reference does not teach or suggest the screed elements as required by the

claims of the present invention. In essence, Ritter is a prior art SCIP reference that suffers from, *inter alia*, the drawback in the art that skilled labor would be required to finish the panel. In other words, Ritter is part of the prior art that shows there exists a long-felt, yet unresolved need in the art that was solved by Applicant's invention.

D. The Examiner Has Failed to Make a Prima Facie Case

As clear from the discussion up to this point, the prior art suffers from the drawback that skilled labor is required to finish SCIP panels. The present invention, as claimed, overcomes this and other drawbacks in the art while solving a long-felt need in the art, by the provision of screed ridges in the outer mesh members of a SCIP panel. These screed ridges are not taught or suggested in the prior art. Ritter is a prior art SCIP panel that suffers from the need for skilled labor that the present invention addresses and solves. Chen is not a SCIP and does not require cementitious outer shells so there would be no motivation to provide it with them. Strand does not discloses ridges that could serve as screeds to smooth an outer surface, but rather points that would prevent one from achieving a smooth outer surface (essential to the integrity of a SCIP) and the element of the claims that the cementitious material be to a depth of the screed apexes. There is no teaching, suggestion, or motivation to use the Strand mesh with Chen even assuming that they were interchangeable, and the end result would not have screed ridges as required, and essential, to the claims.

In view of the foregoing, Applicant submits that the present invention as claimed in claims 22 and 23 is patentable over the art of record.

E. The Examiner Failed to Give the Declaration of Mr. Farrell Any Weight

In addition to the foregoing, Applicant submitted the Declaration of William J. Farrell Under 37 C.F.R. 1.132 to provide evidence of secondary considerations that demonstrate the non-obviousness of the present invention even if the Examiner had a proper *prima facie* case. A copy of this Declaration is also provided in the Evidence Appendix B. Specifically, as stated in Mr. Farrell Declaration, there existed a long-felt, yet unresolved need in the art for an

affordable SCIP for use in residential and commercial building. Farrell Decl. at para. 3. SCIPs were rarely used due to the cost, slowness, and skill necessary to properly finish the outer cementitious layer of the panel. *Id.* at para. 4. The provision of the claimed screed ridges in the wire mesh members solved this need in the art by allowing unskilled labor to assemble and finish the SCIPs on-site. Farrell Decl. at para. 5.

The commercial embodiment, the MetRockSCIP, which employs the wire mesh members having built in screed ridges, has garnered great interest in the industry and enjoyed commercial success. Farrell Decl. at para. 6. Specifically, the MetRockSCIP, although not yet patented, has already been the subject of two licensing agreements in the industry. *Id.* As far as he knows, there are no other SCIP inventors that have been approached for and secured licenses from builders in the industry. *Id.*

In addition to the intended goal of providing a cost-effective SCIP that requires no skilled laborers to assemble or finish, the MetRockSCIP has garnered interest due to the unexpected advantages that they present to the building industry, including the fact that they may be made almost if not completely from recycled materials (as opposed to most buildings requiring lumber, steel, drywall, and the like). Further the panel allow for the assembly of a building structure that is bullet proof, termite proof, hurricane proof, tornado proof, fire proof, and resistant to earthquake and flood damage. Farrell Decl. at para. 7. The MetRockSCIP has the potential for providing safe and affordable shelter in areas of the world lacking skilled labor, lacking access to conventional building materials, lacking vast financial resources to import materials or labor, and/or prone to gun violence or natural disasters. *Id.*

In addition, other unexpected benefits and results of the present invention include not only the affordability of constructing buildings using the invention as opposed to conventional materials, but also the resultant lowering of utility bills through the energy efficiency of the panels and the lowering of insurance rates due to the essentially impervious nature of structure made from the claimed panels. Farrell Decl. at para. 8. All of these issues have been problems in the

construction industry for a very long time and have gone unresolved until the present invention. Farrell Decl. at para. 9.

The sum total of the considerations discussed by Mr. Farrell strongly indicate the non-obviousness of the claims. The Examiner afforded the Declaration of Mr. Farrell no weight on the grounds that it was allegedly not commensurate in scope with the claims. According to the Examiner, the statement in paragraph 6 of Mr. Farrell's that the "'commercial embodiment . . . as claimed in the pending claims, has garnered great interest in the industry and enjoyed commercial success'" indicates that Mr. Farrell is "arguing the narrowest of claims (e.g., the claims with the spacing of the members as claimed, the dimensions, quantity and location of the ridges, etc.). Office Action at 14. Applicant respectfully submits that the statement in the Declaration actually states that "[T]he commercial embodiment, the MetRockSCIP, ***which employs wire mesh members having screed ridges as claimed in the pending claims***, has garnered great interest in the industry and enjoyed commercial success." Mr. Farrell was stating that the use of screed ridges, which is common to all of the pending claims, is responsible for the commercial success. The Examiner's argument does not make sense when you consider that claim 22 is claiming a plurality or screed ridges, claim 28 a pair of screed ridges, and claim 32 a set of three screed ridges. When looking at the dependent claims, the dimensions and spacing are not reconcilable between the two-ridge and three-ridge embodiments. Thus, a fair reading of the Declaration is that the provision of screed ridges, regardless of spacing, is what Mr. Farrell is attributing to the commercial success of the invention. For example in the prior paragraph, Mr. Farrell states:

> The provision of screed ridges in the mesh members to serve as built in screeds has overcome the drawbacks in the art and met the long-felt, yet unresolved need for an affordable SCIP that does not require skilled labor. Specifically, the provision of the claimed screed ridges in the wire mesh members solved this need in the art by allowing unskilled labor to assemble, spray, and finish SCIPs on-site.

See Farrell Decl. at ¶ 5 (Evidence Appendix B).

With respect to Mr. Farrell's claim of unexpected results, the Examiner affords it no weight for two reasons. First, the Examiner argues that "applicant[] provided limitations that are not present in the claim (e.g. the device can be made from recycled materials)," and secondly, the "applicant has not provided any evidence to show its resistance to fire, termites, etc. as claimed in the affidavit." Applicant submits that the evidence of unexpected results was in reference to prior art buildings currently in the industry. At this point Applicant concedes that the showing was not sufficient in that it was not supported by test data and did not directly relate to the cited prior art (rather it was directed to current building practices using steel, wood, dry wall etc.).

F. The Examiner Should Be Reversed as to Claims 22 and 23

In view of the foregoing, Applicant respectfully submits that the present invention as claimed in claims 22 and 23 is patentable over the art of record and thus reversal of the Examiner's rejection is proper and respectfully requested.

II. The Examiner Erred in Making the Rejection of Claims 24-35 Under 35 U.S.C. 103(a) By Chen in view of Strand, Ritter and Sacks.

In the Office Action, claims 24 -35 were rejected under 35 U.S.C. 103 as allegedly being unpatentable over Chen (US 4,611,450) in view of Strand (US 1,664,837), Ritter (US 6,272,805) and Sacks (US 6,820,387). These claims were subject to a separate rejection due to the fact that these claims specific recite that the screed ridges are "V-shaped." Thus, in making the rejections, the Examiner states that "Sacks discloses a screed member (Fig. 2) with a V-shaped ridge." Office Action at 5.

Applicant maintains the position that the prior art in no way, shape, or form teaches or suggests the provision of screed ridges, or built in screeds, on a construction panel to allow for unskilled labor to assemble and finish the panels. The only difference between the rejection of claims 22 and 23 discussed above, and the rejection of claims 24-35 is the inclusion of the Sacks reference. Applicants hereby incorporate the discussion above in connection with the

rejection of claims 22 and 23, and in particular, the discussion of the Chen, Strand, and Ritter references and the Declaration of Mr. Heath.

With respect to Sacks, the Examiner relies upon the reference for the teaching of a screed member having V-shaped ridges. As previously argued in prior responses, Applicant notes that 1) Sacks does not disclose a "screed member" and 2) the rib of Sacks does not extend outwardly (and thus not usable as a screed). Sacks discloses the use of a wire lath member having V-shaped impressions, or trusses, that extend inwardly – e.g., towards the studs or framing members. This orientation of the impressions in clear from the Figures as well as the written description:

> "Lath 10 may be applied over framing members, which are typically 16 inches or 24 inches on center. Lath 10 can be attached to the framing members at the bottom of trusses 15." '387 Patent, col. 7, lines 7-9; *see also* Figs. 6 and 8.
>
> "Lath 10 is preferably applied in an orientation such that the side of lath 10 bearing second longitudinal wires 13 faces the framing members, ... " '387 Patent, col. 7, lnes 15-17.
>
> "More than one longitudinal wire 13 may be provided on each truss 15. If two closely-spaced longitudinal wires 13 are provided on each truss 15 then lath 10 may be fastened to a building structure with fasteners such as nails or screws inserted between the two longitudinal wires 13." '387 Patent, col. 7, lines 56-60.
>
> The trusses must be inwardly projecting to provide the "self-furring" aspect of the invention. *See, e.g.,* ABSTRACT ("A self-furring wire lath has stiffening trusses."); col. 4, lines 21-23; col. 6, lines 45-49. The inwardly extending orientation of the V-shaped impressions is the antithesis of Applicant's claimed invention.

In an effort to side-step this teaching away or function, structure and orientation of the furring members, in the Office Action, the Examiner states that "only the shape of the ridge is considered." Office Action at 5-6. However, Applicant respectfully submits that "[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." *W.L. Gore & Assoc., Inc. v. Garlock, Inc.,* 220 USPQ 580 (CCPA 1970).

In this regard, Mr. Heath describes how one of ordinary skill in the art would view the Sacks reference. Most significantly, Mr. Heath confirms that "the rib in the Sacks art is used in exactly the opposite configuration as the present MetRockSCIP art." Heath Decl. at para. 23. In elaborating on this point, Mr. Heath states:

> The rib, Element 13, is used to stiffen the Sacks lathing mesh; it is not at all used as a "screed". In fact, it is located on the opposite side of the barrier, Element 22, and is entirely inaccessible to the craftsman applying the coating. It could never be used as a "screed" to aid and guide the worker applying the coating to the lathing member. Sacks is in essence also the antithesis of the present invention. One of ordinary skill in the art would not take the teaching of a rib in a non-structural lathing, used to stiffen the lath, and "hidden" behind the barrier paper, and conclude that it could be turned around and used as an "exposed" screed to aid the finishing of a shell in a structural composite panel. Indeed, Sacks teaches away from any such screed use in a structural composite panel. *Id.*

Thus, in view of the foregoing, even if relied upon solely for the shape of the ridge, the Sacks reference teaches away from outwardly projecting V-shaped ridges. In addition, Applicant respectfully submits that the reference teaches away from the claimed invention for additional reasons, is non-analogous art, and inoperable in the combination suggested by the Examiner.

Specifically, Mr. Heath notes that:

> Reading the Background and Summary of the Invention of the Sacks patent clearly describes that the problem trying to be overcome by Sacks is that spraying the plaster on the mesh without the barrier would allow the plaster to coat and/or fill the space behind the wire lath assembly. It is this result that is specifically being addressed by Sacks by the inclusion of the barrier which stops the plaster from passing beyond the barrier. If such a barrier were used in the present MetRockSCIP art, it would destroy the shell in the present art. The barrier serves to provide an excellent stop for the cementitious mater being applied, in the case of Sacks, plaster or stucco. This is not a problem when the application is a decorative surface treatment. However, in the present MetRockSCIP art, the application is a structural panel and any interference wit the shell being fully developed puts the entire structure at risk and destroys its ability to serve as a structural building panel. *Id.* at 21.

In sum, the reference is non-analogous art, teaches away from the invention, and following its teachings would destroy the utility of the present invention as a construction panel.

In order to establish a prima facie case of obviousness, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 580 (CCPA 1970). The mere fact that references can be combined or modified does not render the resultant combination obvious, unless the prior art also suggests the desirability of the combination. *In re Mills*, 16 USPQ.2d 1430 (Fed. Cir. 1990). Further, a prior art reference must be considered in its entirety, i.e, as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Assoc. v. Garlock, Inc.*, 220 USPQ 303 (Fed. Cir. 1983).

In view of the foregoing, Applicant respectfully submits that the present inventions as set forth in claims 24-35 are patentable over the art of record and thus reversal of the Examiner's rejection is proper and respectfully requested.

CONCLUSION

Appellant respectfully submits that the rejections of claims 22-35 are erroneous and reversal of the same is respectfully requested for the reasons set forth herein.

Respectfully submitted,
CAHN & SAMUELS, L.L.P.

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November 4, 2009

APPENDIX A – APPENDIX OF CLAIMS ON APPEAL

22. (Previously Presented) A construction panel comprising:

an outer wire mesh member and an inner wire mesh member; each of said wire mesh members defining at least two outwardly projecting screed ridges extending parallel to one another a length of said wire mesh members;

a middle member comprising a plurality of layers comprising wire trusses and polystryene disposed between said outer and inner mesh members and positioned to define a first gap between said middle member and said outer mesh member and a second gap between said middle member and said inner mesh member, said middle member being connected to said inner and outer mesh members by attaching said mesh members to trusses on outside ends of said middle member and wherein when attached the orientation of respective apexes of the screed ridges on said inner and outer members are diametrically opposed such that the apexes of the screed ridges on said inner member extend away from said middle member in a first direction and the apexes of the screed ridges on said outer member extend away from said middle member in a second direction, said second direction being the opposite direction of the first direction; and

first and second outer layers of concrete material applied to said inner and outer mesh members to a depth extending from said middle member to the apexes of said inner and outer mesh members.

23. (Previously Presented) The construction panel of claim 22, wherein said screed ridges extend the entire length of said wire mesh members from a top end to a bottom end.

24. (Previously Presented) The construction panel of claim 23, wherein said screed ridges are configured as V-shaped impressions in said wire mesh members.

25. (Previously Presented) The construction panel of claim 24, wherein the apexes of said screed ridges extend about ½ inch out of plane with their respective mesh members.

26. (Previously Presented) The construction panel of claim 25, wherein said wire mesh members are approximately 47.25 inches to 48 inches wide and include two parallel screed ridges positioned approximately 30 inches off center.

27. (Previously Presented) The construction panel of claim 26, wherein said wire mesh members are approximately 47.25 inches to 48 inches wide and include three parallel screed ridges such that a first screed ridge is positioned at about 24 inches from each side edge of said mesh member, a left ridge at about 8 inches from the left edge of said mesh member, and a right ridge about 8 inches from a right edge of said mesh member.

28. (Previously Presented) A construction panel comprising:

a pair of wire mesh members sandwiching a middle member comprising polystyrene, each of said wire mesh members defining two outwardly projecting screed ridges extending a length of said wire mesh members, wherein each of said screed ridges are configured as V-shaped impressions having an apex extending about ½ inch and oriented such that the apexes of each wire mesh member extend away from said middle member, and

an outer layer of concrete material applied to each of said wire mesh members to a depth extending from said middle member to the apexes of said inner and outer mesh members.

29. (Previously Presented) The construction panel of claim 28, wherein said middle member comprises a plurality of layers comprising wire trusses and polystyrene and is disposed between said wire mesh members to define a gap between said middle member and each of said wire mesh members.

30. (Previously Presented) The construction panel of claim 29, wherein said middle member is connected to each wire mesh member by attaching said mesh members to trusses on outside ends of said middle member.

31. (Previously Presented) The construction panel of claim 30, wherein each of said wire mesh members is approximately 47.25 inches to 48 inches wide and said screed ridges are disposed about 30 inches off-center.

32. (Previously Presented) A construction panel comprising:

a pair of wire mesh members sandwiching a middle member comprising polystyrene, each of said wire mesh members defining three outwardly projecting screed ridges extending a length of said wire mesh members, wherein each of said screed ridges are configured as V-shaped impressions having an apex extending about ½ inch and oriented such that the apexes of each wire mesh member extend away from said middle member, and

an outer layer of concrete material applied to each of said wire mesh members to a depth extending from said middle member to the apexes of said inner and outer mesh members.

33. (Previously Presented) The construction panel of claim 32, where said middle member comprises a plurality of layers comprising wire trusses and polystyrene and is disposed between said wire mesh members to define a gap between said middle member and each of said wire mesh members.

34. (Previously Presented) The construction panel of claim 33, wherein said middle member is connected to each wire mesh member by attaching said mesh members to trusses on outside ends of said middle member.

35. (Previously Presented) The construction panel of claim 34, wherein each of said wire mesh members is approximately 47.25 inches to 48 inches wide and defines three screed ridges including a first screed ridge at about 24 inches and a left ridge at about 8 inches from a left edge of said mesh member and a right ridge about 8 inches from a right edge of said mesh member

APPENDIX B – EVIDENCE APPENDIX

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	William J. Farrell, Jr.	Confirmation No.: 7235
Serial No.	:	10/696,583	Examiner: William V. Gilbert
Filed	:	October 30, 2003	Group Art Unit: 3635
For	:	WIRE MESH SCREED	

DECLARATION OF MARK D. HEATH
UNDER 37 C.F.R. 1.132

1. I, Mark D. Heath, am over 18 years of age and competent to make this Declaration.
2. I am an expert in the field of building construction and am a consultant for MetRock LLC, the owner of the above-identified patent application.
3. I have over 30 years of experience in the field of construction. A copy of my personal vitae detailing my qualifications and experience is attached hereto as Exhibit A.
4. After a review of the last Office Action and rejection of the MetRock claims in view of Rockstead, Chen, Strand, Sacks and Ritter, I would like to offer my professional and expert opinion as to the novel and non-obviousness of the MetRock claims.
5. It seems to me that the fundamental and core problem in the rejection of the claims is the lack of appreciation for the novelty of the "screed" element in the MetRockSCIP Panel face mesh. Secondarily there is a lack of appreciation for the structural composite action of the two shells in the MetRockSCIP Panel art.
6. In the paragraphs below I will provide some initial background information to aid in understanding the invention and the novel aspects of the screed element and then provide a detailed discussion of the prior art references and

their inapplicability in rendering the claims unpatentable when viewed from the perspective of one of ordinary skill in the art.

7. The MetRockSCIP panel is what is known in the art as a "SCIP panel" or a Structural Concrete Insulating Panel (SCIP). A SCIP is a composite panel with an insulating core, which, in the case of MetRockSCIP, is a core of EPS (expanded polystyrene plastic) foam. The insulating core is then enveloped with a reinforcing cage. In the case of the MetRockSCIP the reinforcing cage is a welded wire truss with a welded wire face mesh and the two, the truss and the face mesh elements, being held together with mechanical fasteners, specifically wire C-rings. This panel assembly, of the insulating core and the reinforcing cage, is then finished with a cementitious skin, or shell, on each face. Because of the nature of the wire mesh face and the positioning of the mesh and the truss, which causes the welded-wire face mesh to be centered in the cementitious shell, the final panel is able to behave in a composite manner. In other words, because the face mesh and the cords and web ends of the truss are anchored in the two shells, the wire reinforcing cage allows the two shells to work together, fundamentally placing one shell in compression while the other goes into tension, and the whole is a composite panel, with all the parts working together to bring about the resultant structural behavior.

8. The behavior of the panel is somewhat analogous to the behavior of steel "I-beams" or wide-flange beams. The web connects the flanges of the beam to each other and the whole is able to act as a composite, with overall better structural behavior far greater that any or all of the parts could demonstrate acting alone. Similarly, in the MetRockSCIP panel, the shells are connected to each other by the truss, thereby allowing all to work together. The mesh reinforces the shells and better anchors the truss in the shells. The core allows for easy fabrication of the shells and prevents the panel from becoming

a solid mass of concrete, which would change it from a composite shell panel to a simple solid concrete panel, which would greatly reduce the structural performance of the panel.

9. Fundamental to SCIP panels is the known behavior of concrete beams and columns. It is well known and documented and is the fundamental concept behind all concrete beam and column engineering that the forces in a concrete column and beam move to the outer surface of the member, leaving the center of the member with little to no force in it. A typical design drawing of a concrete beam will show a wave passing from the top of the member to the bottom of the member and back, for the length of the member. This is to symbolize the compressive force in the top of the member and the tension force in the bottom of the member. As the wave curve passes through the center of the member we commonly speak of it passing through "zero" force or that the center is "quiet" as to forces. From this we understand that the center of the member has very little forces in it, and, hence, the steel reinforcing in a concrete beam or column is at the edge or surface of the member and little to no reinforcing is in the center of the member. The mass of the concrete in the center of the member serves principally to simply hold the outer surfaces to each other so that the loads can be transferred back and forth, as shown in a typical design wave curve.

10. Because beams and columns are typically created through the process of "forming and pouring" there is really no common practical way of eliminating the concrete in the center of the member. It is this fact that is the foundation of the Rockstead art. Further, concrete as a material is best in compression behavior and needs the steel reinforcing bars to do a good job of resisting tension forces. It has long been known that the mass of concrete in the center of the member added much weight to the member and that significant portions of the reinforcing steel added to the columns and beams were there

simply to overcome the added mass of the center volume of concrete. The advent of the SCIP panel, in the late 1960's was a significant advance in concrete construction.

11. The SCIP panel presented a way of making a reinforce concrete member, but without the disadvantage of the large mass of concrete in the center of the member but with a means of still connecting the two outer reinforced surfaces and allowing them to pass their forces back and forth to each other. The idea of placing a lightweight core in the center of a reinforcing matrix which would have sufficient connectivity between the outer surfaces to allow the forces to pass back and forth between each other, while doing so without having the large dense mass of concrete in the center of the member was indeed novel. Various means of making up the reinforcing cage and of placing the core in the center of the panel have been devised and have received patents.

12. Once the reinforcing cage was fabricated with the core being held in the center of the reinforcing cage, the application of the cementitious shells was rarely, if ever, addressed in any prior art. It was simply left to the user to decide on how to accomplish that aspect of the final composite panel. Various means of applying the shells have been employed: placing the cage inside a form and casting the shells by pouring concrete between the form on each face and the core (as in the Rockstead art); hand applying/toweling-on the shell material; spraying with any of the several plaster, air-placed concreting, shotcreting, and guniting methods; have all been used successfully.

13. Over time, the use of air-placed methods has become the predominant method of applying the shell material to the SCIP panel. This means that some method of pumping and spraying with air pressure is used to convey the cementitious material onto the panel. This results in a relatively fast method of getting the material onto the panel and the resulting economy of

this speed is highly desirable. However, there is one very significant drawback to this method – the finished surface of the panel. When spraying the material onto the panel, the material ends up being quite rough and can have significant highs and lows to the surface. This results in the need of skilled craftsmen to smooth out the surface after the spray equipment has applied it. It is well known that the plastering trade is a declining trade in the US, having been nearly totally replaced by the use of gypsum wallboard. Because of this there are fewer and fewer skilled craftsmen who can effectively finish a sprayed wall. It may well be that this single fact is the reason that there are to date no successful SCIP panel enterprises in the US while there are many, many SCIP plants around the world. Every SCIP panel plant ever opened in the US has failed, without exception. Conversely, there are SCIP panel buildings being built daily in Mexico and around the world, where plastering skills are the norm.

14. It is specifically to this issue that the MetRockSCIP panel addresses itself. The deformations in the face mesh of the MetRockSCIP panel allow an unskilled worker to quickly and accurately flatten the sprayed surface of the shell. By simply drawing a flat edged tool, known in the trade as a "rod" or "knife", along the built-in "screeds" created by the deformations in the MetRockSCIP face mesh, the worker can quickly true up the surface and achieve results approaching the work of a skilled craftsman.

15. I offer the above background because I feel that the US Patent Office Action that rejected the MetRockSCIP claims in view of the offered prior art is not correct. I feel that the Office Action and rejection of the present claims did not take into account the unique application and the unique area of art where the MetRockSCIP panel is found.

16. With respect to the Rockstead patent relied upon in making the rejection, it is noted that the elements 18 and 18a in the Rockstead art are **not** screed

ridges but rather points protruding past the plane of the face mesh. Again, they are "points"; they are not "lines", or "rows"; what are known in the trade as "screeds". If one were to try to use these points as screeds and draw a knife or rod along the surface of the Rockstead "points", elements 18 and 18a, the result would be a bumpy and irregular surface, not a flat and smooth surface.

17. There is nothing in Rockstead that speaks of these elements, 18 and 18a, being used as screeds. The closest hint to a similar function is that they can space the reinforcing cage at a given distance from the face of a cast-in-place form face. But this system does not use spraying techniques and there is no screeding or troweling of the surface. The wet material is poured into the formwork containing the Rockstead reinforcing cage and the liquid material fills the annular space between the core of the Rockstead cage and the formwork on each face.

18. Given the above, the Rockstead patent does not present any form of a "screed"; nothing that would assist an unskilled worker to quickly and effectively use the elements 18 and 18a to flatten the sprayed-on shell surface. In fact, attempting to do so would result in exactly the opposite effect – the surface would be irregular, "bumpy" and unacceptable, both from a structural point of view, since the thickness of the shell would be compromised, and from an esthetics point of view, since the surface would not be the desired smooth wall surface being sought. This is the antithesis of the screed ridges of the present MetRockSCIP art.

19. With respect to the Chen patent relied upon in rejection the claims, it is noted that Elements 32, 34, 36, 38, 50, Elements 232, 233, and Elements 312, 342 are all flush with the surface of the face mesh element of the Chen art. Fundamental to a shell, in reinforced concrete engineering, is that the reinforcing matrix is approximately centered in the shell. If any of the above

Elements in Chen were used as a "screed", a device to guide the rod or knife of the worker to smooth the surface of the shell material, the result would be that the shell would have the reinforcing grid at the **outer** surface of the shell. This would destroy the ability of the shell to act in a structural manner. This would result in a useless composite shell product.

20. One of ordinary skill in the art reviewing Chen would understand that Chen was disclosing a panel where the cage itself, the metal and core elements by themselves, create a structural element. Chen specifically claims any coating on the panel as decorative or fire retardant elements, and not an essential part of the structural behavior of a composite panel. In other words, one of ordinary skill in the art would understand immediately that Chen is not a SCIP panel art reference. Accordingly, Chen does not need, and thus does not teach, a cementitious coating as a vital and essential element in the performance of the Chen art. Without the cementitious shell added to the MetRockSCIP art, there is no composite panel. Chen and the present MetRockSCIP art are not related art. Chen is a structural metal cage with an insulating core, while the present MetRockSCIP claims are directed to a composite panel with cementitious shells as essential and vital parts thereto.

21. With respect to the Sacks patent, it is noted that if only Figures 1, 2, and 3 were looked at in isolation, it may appear that the mesh of Sacks and the present MetRockSCIP art are nearly identical. However, ignoring Elements 22 and 24, is to ignore a fundamental aspect of what Sacks is disclosing to one of ordinary skill in the art. Claim 1 of Sacks includes item 1.d. and the patent specification makes clear that the barrier is an essential element of the Sacks art. Reading the Background and Summary of the Invention of the Sacks patent clearly describes that the problem trying to be overcome by Sacks is that spraying the plaster on the mesh without the barrier would allow the plaster to coat and/or fill the space behind the wire lath assembly. It is

this result that is specifically being addressed by Sacks by the inclusion of the barrier which stops the plaster from passing beyond the barrier. If such a barrier were used in the present MetRockSCIP art, it would destroy the shell in the present art. The barrier serves to provide an excellent stop for the cementitious material being applied, in the case of Sacks, plaster or stucco. This is not a problem when the application is a decorative surface treatment. However, in the present MetRockSCIP art, the application is a structural panel and any interference with the shell being fully developed puts the entire structure at risk and destroys its ability to serve as a structural building panel.

22. One of ordinary skill in the art reviewing the Sacks patent would immediately understand that the Sacks art is lathing; a substructure for a decorative building element, plaster. By stark contrast, the present MetRockSCIP claims are directed to a Structural Concrete Insulating Panel, a composite structural building element. These are two fundamentally, functionally, different building elements. Sacks is a decoration, while the present MetRockSCIP art is the structural essence of the building. Disallowing the screed in the present art because of a similar fold in the Sacks art strikes me somewhat like disallowing a structural bend in a automobile hood (a structural issue) because the upholstery cloth has ribs in it (a decorative issue). Because these elements are so dissimilar in their application, it seems to me inappropriate to presume that one skilled in the art of decorative plaster would be applying that knowledge to the art of engineered structural concrete composites.

23. In addition, the rib in the Sacks art is used in exactly the opposite configuration as the present MetRockSCIP art. The rib, Element 13, is used to stiffen the Sacks lathing mesh; it is not at all used as a "screed". In fact, it is located on the opposite side of the barrier, Element 22, and is entirely inaccessible to the craftsman applying the coating. It could never be used as

a "screed" to aid and guide the worker applying the coating to the lathing member. Sacks is in essence also the antithesis of the present invention. One of ordinary skill in the art would not take the teaching of a rib in a non-structural lathing, used to stiffen the lath, and "hidden" behind the barrier paper, and conclude that it could be turned around and used as an "exposed" screed to aid the finishing of a shell in a structural composite panel. Indeed, Sacks teaches away from any such screed use in a structural composite panel.

24. With respect to the Ritter patent relied upon in rejecting the claims of the present MetRockSCIP art, it is noted that Elements 1,2,3,4,5,6, are all flush, or nearly so, with the surface of the face mesh element of the Ritter art. Fundamental to a shell in reinforced concrete engineering is that the reinforcing matrix is approximately centered in the shell. If any of the above Elements in Ritter were used as a "screed", a device to guide the rod or knife of the worker to smooth the surface of the shell material, the result would be that the shell would have the reinforcing grid at the **outer** surface of the shell. This would fundamentally render the shell a non-structural element, violating the basic concept of a composite structural panel presented by the present MetRockSCIP art.

25. In Figures 16a and 16b of Ritter there is shown Element 15 and 15', which are positioned outside of the plane of the shell reinforcing grid. However, if this element were to be used as a screed, it would result in the Element 15 and 15' being generally exposed at the surface of the shell, or cemetituous coating, which would produce a surface that would be unacceptable both in appearance and in function. In appearance because the wires would be exposed and in function because the exposed wires would be subject to rapid oxidation (rusting). Also, the elements 15 and 15' are another layer of reinforcing grid, generally planar, very similar to the primary reinforcing grid,

Elements 1,2,3,4,5,6, and fundamentally and functionally are not screeds, and certainly do not teach toward any kind of a screed function.

26. While Ritter is in general a SCIP art, and presents a structural panel with some composite action, it is not at all the structural art of the present MetRockSCIP art. The Ritter "truss" element, Element 7, is not a true "truss" as is presented in the MetRockSCIP art. Because the Element 7 of Ritter is a "truncated triangle" it is inherently less strong than the true triangle truss presented in the MetRockSCIP art. This teaches away from the vital concept of the present MetRockSCIP art that the two shells are functioning in a composite manner. Ritter even speaks of the shells being structurally independent. This would tend to teach away from a structural composite panel with built-in screed devices to aid in the finishing of the surface of the structural composite panel by laborers not skilled in finishing the shells.

27. With respect to the Strand patent relied upon in making the rejection, it is noted that the elements 15 and 18 in the Strand art are **not** screed ridges but rather "ridges" protruding past the plane of the plasterboard. Again, they are "points"; they are not "lines", or "rows". They are nothing like what are known in the trade as "screeds". If one were to try to use these points as screeds and draw a knife or rod along the surface of the Strand "points", elements 15 and 18, the result would be a bumpy and irregular surface, not a flat and smooth surface.

28. There is nothing in Strand that speaks of these Elements, 15 and 18, being used as screeds. The function is that they can anchor the plaster to the plasterboard substrate. The points or ridges are buried within the plaster coating and could not be used as a screed because of their location within, and not at the surface of the plaster coating.

29. Given the above, the Strand patent does not present any form of a "screed"; nothing that would assist an unskilled worker to quickly and effectively use the

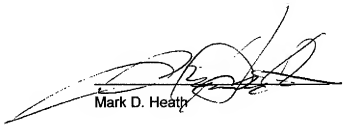
Elements 15 and 18 to flatten the shell surface. In fact, attempting to do so would result in exactly the opposite effect – the surface would be irregular, "bumpy" and unacceptable, both from a structural point of view, since the thickness of the shell would be compromised, and from an esthetics point of view, since the surface would not be the desired smooth wall surface being sought. This is the antithesis of the screed ridges of the present invention.

30. One other contrast is that the Strand art is decorative plaster. This fact alone would teach away from a structural system with composite acting shells. Further, only in the general description does Strand present the possibility of a plaster coating on both sides of the plasterboard. The claims do not discuss this and the figure does not present this. In the present MetRockSCIP art the two shells are integral and vital to the functioning of a structural composite. Strand is a decorative art and not a structural art and nothing in Strand would teach toward structural applications of elements of the Strand art.

31. As set forth above, I am of the opinion that the prior art does not teach or suggest the claims of the present application. In particular, I am of the opinion that the prior art is devoid of any teaching or suggestion of screed ridges that would allow for unskilled labor to finish the cementitious layers. I am also of the opinion that the prior art relied in the Office Action teaches away from the present invention and would not be understood or used by one of ordinary skill in the art to reach the claimed invention.

I make the following declaration to the best of my personal knowledge and belief with acknowledgement that willful false statements are punishable by fine or imprisonment, or both under 18 U.S.C. §1001 and may jeopardize the validity of any patent issuing thereon.

Dated this 28th day of November 2008.



Mark D. Heath

Exhibit A

Mark David Heath

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Summary

Executive level Construction Management skills and capacities founded on Field Management and Trade Craftsman experience.
Especially sensitive to accomplishing the "soft" goals of a project (political, environmental, social, and organizational) while meeting time and budget constraints.

Twenty-nine years of professional experience in all levels and types of Construction Cost Engineering and Construction Management. Extensive experience in the following areas:

- Project Administration and Project Management in Civil, Piping and General Building projects.
- Project Cost Control and Schedule Control in a broad range of construction types - Civil, Industrial Piped Processes, General Building, and Specialty Projects such as Historic Renovation/Restoration and Theme Parks.
- Estimating at all levels - Conceptual, Design Development, Bid and Forensic.
- Education and Instruction in Construction Cost Engineering and Construction Management.
- Cost Estimating and Scheduling Software and Software Systems Development.
- Expert witness and litigation assistance.

Experience

2005 - Present

Operations Director
Norwest Group – Dubai, UAE
International Project Director, Director of Operations for Construction. Directly responsible for day-to-day operations in Chad, Africa for installation of DBST Roads for ExxonMobil venture in Southern Chad. Responsible for technical aspects of work in other countries.

2003 - 2005

Chief Technology Officer
Green Sandwich Technologies - Los Angeles, CA
Development of technology and intellectual property for Structural Concrete Insulating Panels (SCIPs). Secured US Patent #6,718,712 and other Patents Pending. **Developed theory of composite concrete shell behavior, a first in the engineering world.** Prepare training for Fabricators, Installers and Designers.

MAR 88 - 2003

Construction Cost Engineering Consultant
MDH Consulting - Los Angeles, CA

Representative Tasks:

Anheuser-Busch - Business Administrator and Project Controls Manager on Owner's Construction Management Team. Responsible for contracts administration and scheduling / project controls of work at the Los Angeles Brewery as part of the Benchmark Modernization Project. Project value over $500 000 000.

Anheuser-Busch – Field Project Engineer on Owner's Construction Management Team. Owners' Project Manager at the Los Angeles Brewery for several projects, i.e., Ammonia Relief Valving, Condensate Header Replacement, Bio-Energy Recovery Screens, Reverse Osmosis Discharge Sewer. Total Projects valued at over $5 000 000.

Component System Builders, LLC, dba Terra Verde Homes - System Design and Cost Engineering Consultant. Responsible for conceptual design of a system of panelized construction employing steel-reinforced cementitious skins on insulating cores. Assist in securing US Patent rights (Patent # 5,487,248 and #60/127,224). Assist in obtaining worldwide marketing representation. Assist in manufacturing decisions and general business operation decisions.

Calex Engineering Co. - On-Site Project Manager for Mass Excavation and Foundation Contract with UCLA. Responsible for daily direction of the work, contact with the Owners' Representatives and for submittals and schedules. Project value approx. $2 500 000. **Designed and employed world's tallest geo-grid restrained retaining wall to facilitate fast-track foundation construction.**

Dalton Construction - On-Site Project Manager for Compton Multi-Modal Transit Center. Responsible for daily direction of the work, contact with the Owners' Representatives and for submittals and schedules. Project value approx. $2 500 000.

Richardson Engineering Services - Cost Engineering Consultant, with special emphasis in Project Scheduling and Conceptual Estimating. Consultant to national oil companies of Venezuela on Gas Compression Stations and Cross-Country Pipelines. Consultant to Pakistani consortium on relocation of a Cracking and Refining Plant. Consultant to Dutch salt company on construction of new Salt Plant.

STV / Seelye, Stevenson, Value & Knecht, Architects and Engineers. - Consulting Cost Engineer. Responsible for producing and publishing Schematic Design Cost Estimate for Los Angeles County Transportation Commission Central Storage and Maintenance Facility, a "fast-track" commuter rail facility.

NOV 83 - MAR 88 **Principal**

The Pillar Group, Inc., Los Angeles, California
Responsibilities in three divisions included:

H & W Associates - Cost Engineering, Value Engineering, Computerized Construction Cost Estimating, Scheduling and Construction Management. Designed software and report formats. Developed and implemented estimating methodology. Owner's Construction Manager for UCLA Drew Medical School Addition. **Developed first software programming to perform NAVFAC format estimates on personal computers.**

LamTech - Industrialized Building Technologies. Manufacture and installation of panelized building components. Panels made of gypsum skins laminated to Kraft paper honeycomb core. **Directed research and testing team which acquired a 1-hour fire-rating label - the first in the industry.** Directed field teams employing panels in single-family housing, tenant improvement and background/set construction. **Designed and built world's tallest Permanent Wood Foundation retaining wall.**

Construction Information Institute - Professional Instruction in Estimating and Construction Management.
Administrator, Lecturer. Responsible for general operation of the Institute. Primary responsibility for curriculum development and in-service training of instructors.

JAN 81 - JUN 83 **Manager of Estimating**

Tamimi & Fouad Construction Division, Dhahran, Saudi Arabia
(TAFCO - A venture spin-off of Guy F. Atkinson, CA)
Construction of infrastructure, highway, water and sewage treatment plants, and general building projects. Initiated and successfully installed personal computer assisted estimating system during the summer of 1982. Member of Senior Management Team, growing annual gross sales from $60 to over $100 million.

1979 - 1980 **Estimator**
Santa Fe Engineers, Lancaster, California
Staff Estimator. Designed and wrote first estimating software to automate company system.
Project Engineer. Mobilization team member for Long Beach Regional Post Office and Bay Pines VA Hospital (largest and most automated in the VA system).

Armo Construction, Santa Monica, California
Staff Estimator

1976 - 1979 **Trade Contractor**
Salt Lake City and St. George, Utah
Self-employed.

1970 - 1976 **Apprentice / Tradesman**
Heath Homes Inc., Kaysville, Utah
Apprenticeship in Concrete, Carpentry, Masonry and Drywall

Biographical Synopsis

Nationality:	United States Citizen. Passport No. 034076411
Marital Status:	Married with six children.
Education:	BS Economics. Post Graduate work in Law (2 years; focus on business law).
Memberships:	American Association of Cost Engineers Boy Scouts of America, National Eagle Scout Association
Licenses/Certificates:	Certified Cost Consultant, No. 01289 Certified Professional Estimator, General Construction, No. 584-663 Licensed Contractor: State of California, Classification 'A' & 'B', No. 613221; State of Arizona, Class 'B', State of Utah, Class 'B' Post-secondary Teaching Certificate, Department of Education, State of California
Computer Skills:	Hardware: Apple Macintosh and Windows/MS-DOS environments. Software: MS Project, Success, Timberline, Agtech, MicroPlanner, and MacProject, Primavera.
Foreign Living/Travel:	Chad, Africa – 2 yrs; Saudi Arabia - 3 yrs.; Spain - 2 yrs.; French Canada - 4 mo.; Southern Europe - 3 mo.; South America – 2 mo., Pakistan – 2 mo.
Languages:	Fluency in English and Spanish. Conversational skills in French.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	William J. Farrell, Jr.	Confirmation No.: 7235
Serial No.	:	10/696,583	Examiner: William V. Gilbert
Filed	:	October 30, 2003	Group Art Unit: 3635
For	:	WIRE MESH SCREED	

DECLARATION OF WILLIAM J. FARRELL, JR.
UNDER 37 C.F.R. 1.132

1. I, William J. Farrell, Jr., am over 18 years of age and competent to make this Declaration.
2. I one of the named inventors of the above-identified application, and the owner and operator of the assignee of the present application, MetRock LLC.
3. I have worked in the building and coating field for over 18 years and have recognized that prior to our invention, there existed a long-felt, yet unresolved need in the art for an affordable SCIP for use in residential and commercial building.
4. As pointed out in the application, finishing construction panels required skilled labor and was otherwise very time consuming and thus expensive. SCIPs were rarely used in the industry due to the cost, slowness, and skill necessary to properly finish the outer cementitious layers of the panel. Oftentimes, SCIPs had to be manufactured off-site and incurred the transportation cost and lag time off-site construction entails. I have been informed that every domestic SCIP business in the U.S. has failed over time.
5. The provision of screed ridges in the mesh members to serve as built in screeds has overcome the drawbacks in the art and met the long-felt, yet unresolved need for an affordable SCIP that does not require skilled labor. Specifically, the provision of the claimed screed ridges in the wire mesh

members solved this need in the art by allowing unskilled labor to assemble, spray, and finish SCIPs on-site.

6. I have been informed that commercial success is a factor that can help show the non-obviousness, or patentablity, of the claims of a pending application. In this regard, the commercial embodiment, the MetRockSCIP, which employs wire mesh members having screed ridges as claimed in the pending claims, has garnered great interest in the industry and enjoyed commercial success. Specifically, the MetRockSCIP, although not yet patented, has already been the subject of two licensing agreements in the industry. As far as I know, there are no other SCIP inventors or inventions that have been approached for and secured licenses from builders in the industry.

7. I have also been told that unexpected results or benefits can also help show the non-obviousness, or patentability, of the claims of a pending application. In this regard, in addition to the intended goal of providing a cost-effective SCIP that requires no skilled labors to assemble or finish, the MetRockSCIP has garnered interest due to the unexpected advantages that they present including the fact that they may be made almost completely from recycled materials (as opposed to most buildings requiring new lumber, steel, drywall, and the like) and result in a structure that is bullet proof, termite proof, hurricane proof, tornado proof, fire proof, and resistant to earthquake and flood damage. The MetRockSCIP has the potential for providing safe and affordable shelter in areas of the world lacking skilled labor, lacking conventional building materials, lacking vast financial resources, and/or prone to gun violence or natural disasters.

8. Additional unexpected results and benefits of the present invention include not only the affordability of constructing buildings using the invention as opposed to conventional materials, but also the resultant lowering of utility bills through the energy efficiency of the panels and the lowering of insurance

rates due to the essentially impervious nature of structure made from the claimed panels.

9. All of these issues discussed above have been problems in the construction industry for a very long time and have gone unresolved until the present invention.

I make the following declaration to the best of my personal knowledge and belief with acknowledgement that willful false statements are punishable by fine or imprisonment, or both under 18 U.S.C. §1001 and may jeopardize the validity of any patent issuing thereon.

Dated this 10th day of December 2008.

William J. Farrell, Jr.

APPENDIX C – RELATED PROCEEDINGS APPENDIX

There are no other appeals, interferences or judicial proceedings known to Appellant, the Appellant's legal representative, or assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.